

handle the unshielded radiopharmaceutical product using proper safety equipment and procedures.

[0013] However, the assaying process, and the venting of the container in the case of certain volatile radioactive substances which produce radioactive iodine vapours such as ¹³¹Ioclone capsules, can present unnecessary points of risk of exposure to the technologist and other staff. Although the types of destination facilities to which these products are shipped are equipped to properly handle radiopharmaceutical products and the staff at such facilities are well trained in safety policies and procedures, this step in particular can increase the risk of human exposure to the radioactive contents of the radiopharmaceutical product.

[0014] There is accordingly a need for a radiopharmaceutical pig that reduces opportunities for human exposure to the contents of the container when the pig reaches a hospital or clinic setting and the product in the container is exposed to the ambient environment. Such a pig is disclosed in PCT/CA2017/0505689 to Kamen, the contents of which are incorporated herein.

[0015] While the inventions disclosed in the above-noted application to Kamen are useful, improvements are desirable. For example, improvements to the compression member to be disposed intermediate at least a container closure and the pig are desirable.

SUMMARY OF THE INVENTION

[0016] According to an aspect there is provided a compression member for insertion into a pig for transporting a container of biohazardous materials, the compression member comprising a flange maintained in spaced relation with an annulus by pillars; and spaced apart pivotable grip components supported by the annulus and extending downwards from the annulus between respective ones of the pillars towards, but not into contact with, the flange, the pivotable grip components resiliently compressible inwardly against the container when the container is received within the compression member.

[0017] In an embodiment, the compression member further comprises a ramp on an outward-facing surface of each of the grip components.

[0018] In an embodiment, the compression member further comprises a buttress at the interface between each pillar and the annulus.

[0019] In an embodiment, the flange of the compression member further comprises a sloped edge about its periphery for snap retention within the complementary annulus.

[0020] In an embodiment, the flange, annulus, pillars and grip components are formed as a unitary structure.

[0021] In an embodiment, the compression member is formed of a thermoplastic material.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] In drawings that illustrate an embodiment of the invention by way of non-limiting example only:

[0023] FIG. 1 is a perspective view of a radiopharmaceutical pig according to the invention;

[0024] FIG. 2 is a cross-sectional elevation of the radiopharmaceutical pig of FIG. 1;

[0025] FIG. 3 is a perspective view of the radiopharmaceutical pig of FIG. 1 with the cap removed and a radiopharmaceutical container secured to the cap;

[0026] FIG. 4 is a perspective view of the radiopharmaceutical pig of FIG. 1 with the cap removed and the radiopharmaceutical container in the body of the pig;

[0027] FIG. 5 is an elevation of the cap;

[0028] FIG. 6 is a cross-sectional perspective view of the cap taken from above;

[0029] FIG. 7 is a cutaway perspective view of the cap taken from above;

[0030] FIG. 8 is a perspective view of the cap taken from below;

[0031] FIG. 9 is a perspective view of a compression member for assisting in securing the container closure to the cap;

[0032] FIG. 10 is a plan view of the compression member taken from the bottom of FIG. 9;

[0033] FIG. 11 is a cross-sectional elevation of the container secured in the cap;

[0034] FIG. 12 is a cutaway perspective view of the container secured in the cap;

[0035] FIG. 13A is a perspective view of an injection port for use with biohazardous liquids;

[0036] FIG. 13B is a perspective view of an alternative injection port for use with biohazardous materials;

[0037] FIG. 14 is a front perspective view of a pig according to an alternative embodiment and a handle assembly for the pig;

[0038] FIG. 15 is a perspective view of the pig and handle assembly of FIG. 14 with the handle assembly in a different orientation;

[0039] FIG. 16 is another perspective view of the pig and handle assembly of FIG. 14 with the handle assembly in yet a different orientation;

[0040] FIG. 17 is an exploded perspective view of the handle assembly for the pig in isolation;

[0041] FIG. 18 is a perspective top view of an alternative compression member for assisting in securing the container closure to the cap;

[0042] FIG. 19 is a side elevation view of the compression member of FIG. 18;

[0043] FIG. 20 is a top plan view of the compression member of FIG. 18;

[0044] FIG. 21 is a bottom plan view of the compression member of FIG. 18;

[0045] FIG. 22 is a perspective bottom view of the compression member of FIG. 18;

[0046] FIG. 23 is a perspective top view, partially sectioned, of the compression member of FIG. 18;

[0047] FIG. 24 is a perspective bottom view, partially sectioned, of the compression member of FIG. 18;

[0048] FIG. 25 is another perspective top view, partially sectioned, of the compression member of FIG. 18;

[0049] FIG. 26 is another perspective bottom view, partially sectioned, of the compression member of FIG. 18;

[0050] FIG. 27 is a perspective top view of another alternative compression member for assisting in securing the container closure to the cap;

[0051] FIG. 28 is a side elevation view of the compression member of FIG. 27;

[0052] FIG. 29 is a top plan view of the compression member of FIG. 27;

[0053] FIG. 30 is a perspective top view, partially sectioned, of the compression member of FIG. 27;

[0054] FIG. 31 is a perspective bottom view of the compression member of FIG. 27.